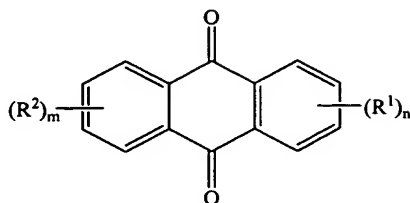


**WHAT IS CLAIMED IS:**

1. A compound having the formula:

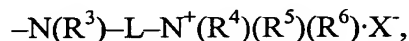


**I**

wherein:

each  $R^1$  is an independently selected quaternary ammonium salt group;  
each  $R^2$  is independently selected from a quaternary ammonium salt group and  
a substituent group;  
 $m$  is an integer from 0 to 4; and  
 $n$  is an integer from 1 to 4.

2. The compound of claim 1, wherein said quaternary ammonium salt group has the formula:



**Ia**

wherein:

$R^3$  is a member selected from the group consisting of hydrogen, an alkyl group, and an amino protecting group;  
each of  $R^4$ ,  $R^5$ , and  $R^6$  is independently selected from the group consisting of hydrogen, alkyl, aryl, aralkyl, cycloalkyl, and cycloalkylalkyl;  
 $L$  is a linker comprising a 1-12 carbon atom chain; and  
 $X$  is a counter anion.

3. The compound of claim 2, wherein:

$R^4$  and  $R^5$  are each independently selected  $C_1$ - $C_4$  alkyl groups; and  
 $R^6$  is a  $C_4$ - $C_{18}$  alkyl group.

4. The compound of claim 3, wherein:

$R^4$  and  $R^5$  are methyl groups; and  
 $R^6$  is a  $C_4$ - $C_{18}$  alkyl group.

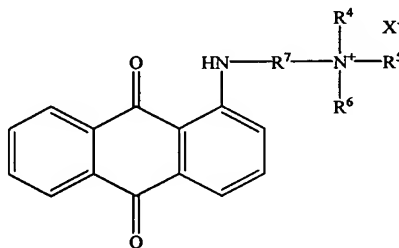
5. The compound of claim 4, wherein:  
R<sup>6</sup> is selected from the group consisting of a butyl, pentyl, hexyl, heptyl, octyl, nonyl, decyl, undecyl, and dodecyl group.

6. The compound of claim 5, wherein:  
R<sup>6</sup> is selected from the group consisting of an octyl and dodecyl group.

7. The compound of claim 2, wherein X is independently selected from the group consisting of F<sup>-</sup>, Cl<sup>-</sup>, Br<sup>-</sup>, I<sup>-</sup>, and combinations thereof.

8. The compound of claim 1, wherein said substituent group is independently selected from the group consisting of hydrogen, alkyl, aryl, aralkyl, cycloalkyl, cycloalkylalkyl, sulfonate, hydroxyl, alkoxy, amino, and alkylamino.

9. The compound of claim 1, wherein said compound has the following structure:



wherein:

R<sup>4</sup> and R<sup>5</sup> are each independently selected C<sub>1</sub>-C<sub>4</sub> alkyl groups;  
R<sup>6</sup> is a C<sub>4</sub>-C<sub>18</sub> alkyl group;  
R<sup>7</sup> is a C<sub>1</sub>-C<sub>12</sub> alkylene group optionally interrupted with a heteroatom or a -C(O)R<sup>8</sup> group, wherein R<sup>8</sup> is a C<sub>1</sub>-C<sub>12</sub> alkylene group; and  
X is a counter anion.

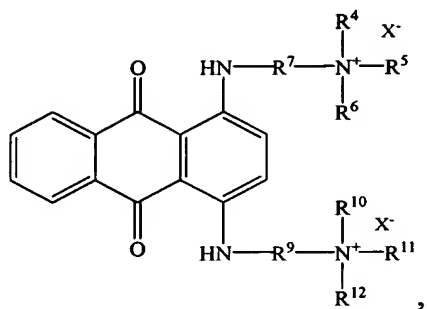
10. The compound of claim 9, wherein R<sup>4</sup> and R<sup>5</sup> are methyl groups.

11. The compound of claim 9, wherein R<sup>6</sup> is an octyl or dodecyl group.

12. The compound of claim 9, wherein R<sup>7</sup> is a -CH<sub>2</sub> or a -C(O)CH<sub>2</sub> group.

13. The compound of claim 9, wherein X is independently selected from the group consisting of F<sup>-</sup>, Cl<sup>-</sup>, Br<sup>-</sup>, and I<sup>-</sup>.

1                    14.     The compound of claim 1, wherein said compound has the following  
2     structure:



3  
4     wherein

5                     $R^4$ ,  $R^5$ ,  $R^{10}$ , and  $R^{11}$  are each independently selected  $C_1$ - $C_4$  alkyl groups;

6                     $R^6$  and  $R^{12}$  are each independently selected  $C_4$ - $C_{18}$  alkyl groups;

7                     $R^7$  and  $R^9$  are each independently selected  $C_1$ - $C_{12}$  alkylene groups optionally  
8                    interrupted with a heteroatom or  $-C(O)R^8$  groups, wherein  $R^8$  is a  $C_1$ - $C_{12}$   
9                    alkylene group; and

10                   each X is an independently selected counter anion.

1                    15.     The compound of claim 14, wherein  $R^4$ ,  $R^5$ ,  $R^{10}$ , and  $R^{11}$  are methyl  
2     groups.

1                    16.     The compound of claim 14, wherein  $R^6$  and  $R^{12}$  are independently  
2     selected octyl or dodecyl groups.

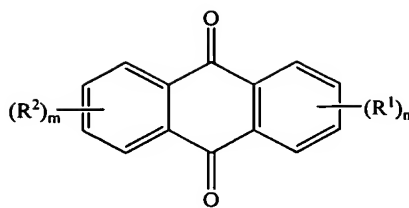
1                    17.     The compound of claim 14, wherein  $R^7$  and  $R^9$  are independently  
2     selected  $-CH_2$  or  $-C(O)CH_2$  groups.

1                    18.     The compound of claim 14, wherein X is independently selected from  
2     the group consisting of  $F^-$ ,  $Cl^-$ ,  $Br^-$ , and  $I^-$ .

1                    19.     A polymer composition comprising:

2                    (a) a polymer, wherein said polymer is a member selected from the group  
3                    consisting of a textile, a plastic, rubber, paint, a surface coating, an  
4                    adhesive, and a combination thereof; and

5                    (b) a compound having the formula:



I

wherein:

each  $R^1$  is an independently selected quaternary ammonium salt group;

each  $R^2$  is independently selected from a quaternary ammonium salt group and a substituent group;

m is an integer from 0 to 4; and

n is an integer from 1 to 4.

20. The composition of claim 19, wherein said polymer is a textile.

21. The composition of claim 20, wherein said textile is selected from the group consisting of a fiber from a plant, a polymer from an animal, a natural organic polymer, a synthetic organic polymer, an inorganic substance, and a combination thereof.

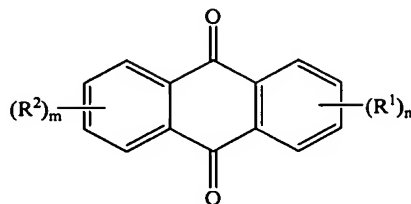
22. The composition of claim 21, wherein said textile is selected from the group consisting of cellulose, cotton, linen, hemp, jute, ramie, wool, mohair, vicuna, silk, rayon, lyocell, acetate, triacetate, nylon, polyester, a polyester/cellulose blend, acrylic, azlon, aramid, olefin, spandex, vinyon, vinyl, graphite, an aromatic polyamide, glass, a metallic material, a ceramic material, and a combination thereof.

23. The composition of claim 19, wherein said polymer is a plastic.

24. The composition of claim 23, wherein said plastic is selected from the group consisting of polyethylene, polypropylene, polystyrene, and polyvinylchloride polyamideimide, polyethersulfone, polyarylsulfone, polyetherimide, polyarylate, polysulfone, polycarbonate, polyetherketone, polyetheretherketone, polytetrafluoroethylene, nylon-6,6, nylon-6,12, nylon-11, nylon-12, acetal resin, polypropylene, polyethylene, and a combination thereof.

25. A method for simultaneously dyeing and finishing a polymer, said method comprising:

immersing said polymer in an aqueous treating solution which comprises a compound having the formula: :



I

wherein:

each R<sup>1</sup> is an independently selected quaternary ammonium salt group;

each R<sup>2</sup> is independently selected from a quaternary ammonium salt group and a substituent group;

m is an integer from 0 to 4; and

n is an integer from 1 to 4.

26. The method of claim 25, further comprising removing excess aqueous treating solution from said polymer.

27. The method of claim 26, further comprising drying said article after removing excess aqueous treating solution to produce a dried polymer.

28. The method of claim 25, wherein said aqueous treating solution further comprises a wetting agent.

29. The method of claim 25, wherein said polymer is a textile.

30. The method of claim 29, wherein said textile is selected from the group consisting of a fiber from a plant, a polymer from an animal, a natural organic polymer, a synthetic organic polymer, an inorganic substance, and a combination thereof.

31. The method of claim 30, wherein said textile is selected from the group consisting of cellulose, cotton, linen, hemp, jute, ramie, wool, mohair, vicuna, silk, rayon, lyocell, acetate, triacetate, nylon, polyester, a polyester/cellulose blend, acrylic, azlon, aramid, olefin, spandex, vinyon, vinyl, graphite, an aromatic polyamide, glass, a metallic material, a ceramic material, and a combination thereof.

32. The method of claim 25, wherein said polymer is a plastic.

1                    33.     The method of claim 32, wherein said plastic is selected from the  
2     group consisting of polyethylene, polypropylene, polystyrene, and polyvinylchloride  
3     polyamideimide, polyethersulfone, polyarylsulfone, polyetherimide, polyarylate, polysulfone,  
4     polycarbonate, polyetherketone, polyetheretherketone, polytetrafluoroethylene, nylon-6,6,  
5     nylon-6,12, nylon-11, nylon-12, acetal resin, polypropylene, polyethylene, and a combination  
6     thereof.